CLAIMS:

1. Use of agents which reduce or inhibit the expression and/or activity of protein kinase C-α (PKC-α) for the treatment and/or prevention of vascular diseases, cardiovascular diseases, renal diseases involving proteinuria, diabetic late effects and/or cardiovascular complications in patients with diabetes mellitus, cardiovascular complications in patients with hypertension, and/or cardiovascular complications in patients with hypercholesterolemia.

2. The use according to claim 1, wherein said vascular diseases and cardiovascular diseases are selected from the group consisting of peripheral occlusive disease, coronary heart disease, myocardial infarction and stroke.

3. The use according to claim 1, wherein said cardiovascular complications are peripheral occlusive disease, coronary heart disease, myocardial infarction and/or stroke.

4. The use according to claim 1, wherein said diabetic late effects are diabetic retinopathy, diabetic neuropathy and/or diabetic nephropathy.

5. The use according to claim 1, wherein said renal diseases involving proteinuria are parenchymal kidney diseases.

6. The use according to claim 5, wherein said proteinuria is glomerular proteinuria, tubular proteinuria or mixed glomerulo-tubular proteinuria.

7. The use according to claim 5 or 6, wherein said renal diseases are minimal-change nephropathy, other glomerulopathies, kidney amyloidosis, hereditary tubulopathy, renal-tubular azidosis, interstitial nephritis induced by bacteria or medicaments, acute renal failure, Bence-Jones nephropathy or kidney transplantation.

8. The use according to any of claims 1 to 7, wherein said agents specifically reduce or inhibit the expression and/or activity of protein kinase C-α (PKC-α).

9. The use according to claim 8, wherein said agents are selected from the group consisting of nucleic acids which reduce or inhibit the expression of the protein kinase C-α gene, vectors containing said nucleic acid, host cells containing said vectors, substances which inhibit or reduce the expression of protein kinase C-α, substances which inhibit the translocation of protein kinase C-α, antagonists of protein kinase C-α activity, and inhibitors of protein kinase C-α activity.

10. The use according to claim 9, wherein said nucleic acid can inhibit the expression of the gene of human protein kinase C-α in a host cell in antisense orientation to a promoter.

11. The use according to claim 9 or 10, wherein said nucleic acid is selected from the group consisting of

a) a nucleic acid coding for human protein kinase C-α, or a fragment thereof;

b) a nucleic acid which is complementary to the nucleic acid according to a), or a fragment thereof;

c) a nucleic acid which is obtainable by substitution, addition, inversion and/or deletion of one or more bases of a nucleic acid according to a) or b), or a fragment thereof; and

d) a nucleic acid which has more than 80% homology with a nucleic acid according to a) through c), or a fragment thereof.

12. The use according to claim 11, wherein said fragment of the nucleic acid comprises at least 10 nucleotides, preferably at least 50 nucleotides, more preferably at least 200 nucleotides.

13. The use according to any of claims 9 to 12, wherein said nucleic acid is a DNA or RNA.

14. The use according to any of claims 9 to 13, wherein said nucleic acid or fragment thereof is inserted in a vector under the control of at least one expression regulating element in antisense orientation thereto.

15. The use according to claim 14, wherein said vector is a plasmid, cosmid, bacteriophage or virus.

16. The use according to claim 14 or 15, wherein said expression regulating element is a promoter, a ribosome binding site, a signal sequence or a 3' transcription terminator.

17. The use according to any of claims 14 to 16, wherein said vector is contained in a host cell.

18. The use according to claim 17, wherein said host cell is a mammal cell, especially a human cell.

19. The use according to claim 9, wherein said substance which inhibits or reduces the expression of protein kinase C-α is an activator of protein kinase C-α.

20. The use according to claim 19, wherein said activator is a phorbol compound.

21. The use according to claim 20, wherein said phorbol compound is 12-O-tetradecanoylphorbol-13-acetate (TPA) or phorbol-12,13-dibutyrate (PDBu).

22. The use according to claim 9, wherein said inhibitor is an antibody which reacts with protein kinase C-α.

23. The use according to claim 22, wherein said antibody is a monoclonal or polyclonal antibody.

24. The use according to claim 22 or 23, wherein said antibody is a humanized antibody.

25. The use according to claim 9, wherein said inhibitor changes the phosphorylation state of protein kinase C-α.

26. The use according to claim 25, wherein said inhibitor is tocopherol.

27. The use according to claim 9, wherein said antagonist is a derivative or analogue of protein kinase C-α.

28. The use according to any of claims 1 to 7, wherein said agent which reduces or inhibits the expression and/or activity of protein kinase C-α is an agent which at the same time reduces or inhibits the expression and/or activity of protein kinase C-β.

29. The use according to claim 28, wherein said agent is cyclosporine A.

30. The use according to any of claims 1 to 27, wherein said agent which specifically reduces or inhibits the expression and/or activity of protein kinase C-α is employed in combination with an agent which specifically reduces or inhibits the expression and/or activity of protein kinase C-β.

31. The use according to claim 30, wherein said agent which reduces or inhibits the expression and/or activity of protein kinase C-β is selected from the group consisting of nucleic acids which reduce or inhibit the expression of the protein kinase C-β gene, vectors containing said nucleic acid, host cells containing said vectors, substances which inhibit or reduce the expression of

protein kinase C-β, substances which inhibit the translocation of protein kinase C-β, antagonists of protein kinase C-β activity, and inhibitors of protein kinase C-β activity.

32. The use according to claim 31, wherein said nucleic acid is selected from the group consisting of

a) a nucleic acid coding for human protein kinase C-β, or a fragment thereof;

b) a nucleic acid which is complementary to the nucleic acid according to a), or a fragment thereof;

c) a nucleic acid which is obtainable by substitution, addition, inversion and/or deletion of one or more bases of a nucleic acid according to a) or b), or a fragment thereof; and

d) a nucleic acid which has more than 80% homology with a nucleic acid according to a) through c), or a fragment thereof.

33. The use according to claim 32, wherein said fragment of the nucleic acid comprises at least 10 nucleotides, preferably at least 50 nucleotides, more preferably at least 200 nucleotides.

34. The use according to any of claims 31 to 33, wherein said nucleic acid is a DNA or RNA.

35. The use according to any of claims 31 to 34, wherein said nucleic acid or fragment thereof is inserted in a vector under the control of at least one expression regulating element in antisense orientation thereto.

36. The use according to claim 35, wherein said vector is a plasmid, cosmid, bacteriophage or virus.

37. The use according to claim 35 or 36, wherein said expression regulating element is a promoter, a ribosome binding site, a signal sequence or a 3' transcription terminator.

38. The use according to any of claims 35 to 37, wherein said vector is contained in a host cell.

39. The use according to claim 38, wherein said host cell is a mammal cell, especially a human cell.

40. The use according to claim 31, wherein said inhibitor is an antibody which reacts with protein kinase C-β.

41. The use according to claim 40, wherein said antibody is a monoclonal or polyclonal antibody.

42. The use according to claim 40 or 41, wherein said antibody is a humanized antibody.

43. The use according to claim 31, wherein said inhibitor changes the phosphorylation state of protein kinase C-β.

44. The use according to claim 31, wherein said antagonist is a derivative or analogue of protein kinase C-β.

45. Use of agents which reduce or inhibit the expression and/or activity of protein kinase C-α (PKC-α) for the preparation of a pharmaceutical composition for the treatment and/or prevention of coronary heart disease, myocardial infarction, peripheral occlusive disease, stroke, renal diseases involving proteinuria, diabetic late effects and/or cardiovascular complications in patients with diabetes mellitus, cardiovascular complications in patients with hypertension, and cardiovascular complications in patients with hypercholesterolemia.

46. The use according to claim 45, wherein said cardiovascular complications are coronary heart disease, myocardial infarction, peripheral occlusive disease or stroke.

47. The use according to claim 45, wherein said diabetic late effects are diabetic retinopathy, diabetic neuropathy and diabetic nephropathy.

48. The use according to claim 45 to 47, wherein said agents are selected from the group consisting of nucleic acids which reduce or inhibit the expression of the protein kinase C-α gene, vectors containing said nucleic acid, host cells containing said vectors, substances which inhibit or reduce the expression of protein kinase C-α, substances which inhibit the translocation of protein kinase C-α, antagonists of protein kinase C-α activity, and inhibitors of protein kinase C-α activity.

49. The use according to claim 48, wherein said agents are antisense oligonucleotides of the gene coding for protein kinase C-α, tocopherol, phorbol compounds, derivatives of protein kinase C-α, or analogues of protein kinase C-α.

50. A pharmaceutical composition for the treatment and/or prevention of coronary heart disease, myocardial infarction, peripheral occlusive disease, stroke, renal diseases involving proteinuria, diabetic late effects and/or cardiovascular complications in patients with diabetes mellitus, cardiovascular complications in patients with hypertension, and cardiovascular complications in patients with hypercholesterolemia, comprising at least one agent which reduces or inhibits the expression and/or activity of protein kinase C-α (PKC-α) as an active ingredient.

51. The pharmaceutical composition according to claim 50, wherein said agents are selected from the group consisting of nucleic acids which reduce or inhibit the expression of the protein kinase C-α gene, vectors containing said nucleic acid, host cells containing said vectors, substances which inhibit or reduce the expression of protein kinase C-α, substances which inhibit the

translocation of protein kinase C-α, antagonists of protein kinase C-α activity, and inhibitors of protein kinase C-α activity.

52. The pharmaceutical composition according to claim 51, wherein said agents are antisense oligonucleotides of the gene coding for protein kinase C-α, tocopherol, phorbol compounds, derivatives of protein kinase C-α, or analogues of protein kinase C-α.

53. The pharmaceutical composition according to any of claims 50 to 52, comprising at least one further active ingredient.

54. The pharmaceutical composition according to claim 53, wherein said further active ingredient is an agent which specifically reduces or inhibits the expression and/or activity of protein kinase C-β.

55. The pharmaceutical composition according to claim 54, wherein said agent which reduces or inhibits the expression and/or activity of protein kinase C-β is selected from the group consisting of nucleic acids which reduce or inhibit the expression of the protein kinase C-β gene, vectors containing said nucleic acid, host cells containing said vectors, substances which inhibit or reduce the expression of protein kinase C-β, substances which inhibit the translocation of protein kinase C-β, antagonists of protein kinase C-β activity, and inhibitors of protein kinase C-β activity.